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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/714,028	11/14/2003	Shahram Mostafazadeh	NSC1P236C1/P05221	2865

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EXAMINER	
ZARNEKE, DAVID A	

ART UNIT	PAPER NUMBER
2891	

DATE MAILED: 03/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/714,028	MOSTAFAZADEH ET AL.	
	Examiner	Art Unit	
	David A. Zarneke	2829	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-6 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-6 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 14 November 2003 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 11/14/03.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 1 is rejected under 35 U.S.C. 102(e) as being clearly anticipated by Gruber et al., US Patent 6,489,675.

Gruber teaches an optical integrated circuit package, comprising:

an integrated circuit [4] having a first surface and a second surface, the first surface having a first set of light emitting or sensing devices [2] and a plurality of bond pads [11];

a conductive bump [5 & 8] formed on each of the respective bond pads; and

a clear molding material [1] that encapsulates the integrated circuit and a portion of each conductive bump such that each conductive bump is partially exposed through the clear molding material [8], whereby light can pass through the clear molding material and reach the first set of light emitting or sensing devices.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gruber et al., US Patent 6,489,675, as applied to claim 1 above, and further in view of Lam et al., US Patent 6,256,200.

Regarding claim 2, Gruber fails to teach an optical integrated circuit package as recited in claim 1, further comprising a metal pad that is attached to the second surface of the integrated circuit wherein the metal pad is partially encapsulated by the clear molding material.

Lam (figures 8A-J & 10A-F) teaches attaching a metal pad (heat sink [144A]) to a die [142A].

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the heat sink of Lam in the invention of Gruber because heat sinks are commonly used in the art to dissipate the thermal load on the integrated circuit, which adversely affects the integrated circuit.

With respect to claim 3, Gruber fails to teach an optical integrated circuit package as recited in claim 2, wherein the metal pad has locking ledges extending from the peripheral edges of the metal pad, whereby the locking ledges serve to lock the metal pad within the clear molding material.

Lam (figures 8A-J & 10A-F) teaches the metal pad (heat sink [144A]) has locking ledges [160] extending from the peripheral edges of the metal pad, whereby the locking ledges serve to lock the metal pad within the clear molding material (9, 55+).

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gruber et al., US Patent 6,489,675.

Gruber teaches an optical integrated circuit package, comprising:

an integrated circuit [4] having a first surface and a second surface, the first surface having a first set of light emitting or sensing devices [2] and a plurality of bond pads [11];

a conductive bump [5 & 8] formed on each of the respective bond pads; and

a clear molding material [1] that encapsulates the integrated circuit and a portion of each conductive bump such that each conductive bump is partially exposed through

the clear molding material [8], whereby light can pass through the clear molding material and reach the first set of light emitting or sensing devices.

Gruber fails to teach the use of a second set of light emitting or sensing devices.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use a second set of light emitting or sensing devices because the mere duplication of parts has no patentable significance unless a new and unexpected result is produced (In re Harza, 124 USPQ 378 (CCPA 1960)).

Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gruber et al., US Patent 6,489,675, as applied to claim 1 above, and further in view of Lam et al., US Patent 6,256,200.

Regarding claim 5, Gruber fails to teach an optical integrated circuit package as recited in claim 1, further comprising a metal pad that is attached to the second surface of the integrated circuit wherein the metal pad is partially encapsulated by the clear molding material.

Lam (figures 8A-J & 10A-F) teaches attaching a metal pad (heat sink [144A]) to a die [142A].

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the heat sink of Lam in the invention of Gruber because heat sinks are commonly used in the art to dissipate the thermal load on the integrated circuit, which adversely affects the integrated circuit.

With respect to claim 6, Gruber fails to teach an optical integrated circuit package as recited in claim 2, wherein the metal pad has locking ledges extending from the

peripheral edges of the metal pad, whereby the locking ledges serve to lock the metal pad within the clear molding material.

Lam (figures 8A-J & 10A-F) teaches the metal pad (heat sink [144A]) has locking ledges [160] extending from the peripheral edges of the metal pad, whereby the locking ledges serve to lock the metal pad within the clear molding material (9, 55+).

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-6 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-20 of U.S. Patent No. 6,468,832. Although the conflicting claims are not identical, they are not patentably distinct from each other because the current application is directed to only one package, while the patent is directed to plural packages.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use plural packages as opposed to a single package because the mere

duplication of parts has no patentable significance unless a new and unexpected result is produced (In re Harza, 124 USPQ 378 (CCPA 1960)).

Terminal Disclaimer

The terminal disclaimer field over US Patent 6,707,148 has been received and approved.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David A. Zarneke whose telephone number is (571)-272-1937. The examiner can normally be reached on M-F 7:30 AM-6 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Baumeister can be reached on (571)-272-1712. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

David A. Zarneke
Primary Examiner
March 19, 2005